CIRM Shared Research Laboratory Information Form – Part Two

Section A. Project Information

Project Title	The Stanford University Center for Human Embryonic Stem Cell Research and Education

Limited to 300 Characters

Project Start Date	Jul 1, 2007	Construction Start Date	Jul 2, 2007	Occupancy Date	Sep 1, 2007

Total Part Two Funds Requested for Shared Laboratory Space	$2,000,000
Total Part Two Funds Requested for Stem Cell Techniques Course	$ 500,000
Total Capital Funds Requested	$1,000,000

Note: All green fields are calculated values. Do not enter a value in the field.

Please indicate whether you propose to apply for funding of a Stem Cell Techniques Course along with the Shared Laboratory Space, or just the Shared Laboratory Space.

◯ Shared Research Laboratory only ◉ Shared Research Laboratory and Stem Cell Techniques Course

NOTE: Please be aware that any information you provide in this form will be made publically available.

Section A. 1. Program Director

Name	Prefix	First	Middle	Last	Suffix
	Dr.	Renee	A	Reijo Pera	

Email (office)	reneer@stanford.edu	This email address identifies you to CIRM. Please use this email address for all correspondence with CIRM.
Application Number	CL1-00518-1	This field should fill automatically, based on the email address. If not, enter the number you received via email from CIRM, in the form "XX9-99999-9", where "X" is a letter, and "9" is a digit.

Section A. 2. Facilities Contact

Name	Prefix	First	Middle	Last	Suffix
		Nancy	H	Tierney	

Institution	Stanford University	If your institution is not listed, please identify the name of the institution here.
Other Institution		
Position Title	Director	
Department	Office of Facilities Planning and Management	
Address	300 Pasteur Drive, Alway M033B	

City	Stanford			CA	Zip Code 94305
Phone Number	(650) 725-3922	Ext		Fax Number	(650) 725-9641
Email (office)	nancyt@stanford.edu	This email address identifies you to CIRM. Please use this email address for all correspondence with CIRM.			

(Revised 03/07/2007)

Section A. 3. Public Abstract

See Appendix A.

Section A. 4. Statement of Benefit to California

See Appendix A.

CIRM Shared Research Laboratory Information Form – Part Two

Section B. Laboratory Renovation Plan

Project Manager	Susan Rozakis		Construction Supervisor	Brent Miller
Title	Project Manager		Title	Project Manager
Company/Institution	Stanford University		Company/Institution	Dome Construction

Describe plans for development/renovation of the shared laboratory space including fixed equipment costs. Include a description of the current space and how it will be renovated and reconfigured to form the laboratory. Include as attachments one 11x17 page of the current floor plan space and one 11x17 page of proposed floor plan of the renovated space. Describe all renovations that will be done. Describe how the project will be managed and tracked, as well as how change orders will be handled. For laboratories that are proposed to be located in leased space, provide information regarding the institution's long-term access to the leased space. Describe plans and schedule for all phases of development including design, construction, and installation of equipment leading to a functional laboratory. Give a proposed contingency plan in case of cost overruns. Any additional costs due to budget overruns will be the responsibility of the grant recipient. (narrative limited to 3 pages)

Stanford University seeks funding to renovate core laboratory facilities that will house a human embryo/oocyte resource center and database, hESC line derivation, human embryology and genetics/genomics, and SCNT efforts, as well as other basic and translational research and educational training. The facilities will also provide a central repository for growth, characterization and distribution of hESC lines within the community. These facilities are located at 1050 Arastradero Road (the central facility) and 800 Welch Road (a satellite facility).

1050 Arastradero Road

The space at Arastradero Road was originally designed for a startup pharmaceutical company and was primarily outfitted for chemistry and toxicological studies. Over the last 3 years, the Stanford Institutes of Medicine (including the Institute for Stem Cell Biology and Regenerative Medicine), the School of Medicine and Stanford University have invested more than $20 million to renovate this space, including as a high priority provision of unencumbered space for human embryo and embryonic stem cell research and teaching. The central space to be renovated and/or equipped through funds requested here, at 1050 Arastradero Road, consists of three adjacent research labs, A127, A132, and A134, totaling 2500 square feet with an accompanying 360 square feet of staff and administrative office space; in addition, we are devoting an additional 2500 square feet of space to hESC research (A119, 120 and 126) to accommodate another 16 researchers under the "hotel" concept described in Part I of this application. Moreover, we are renovating the support facilities for this space including the equipment rooms, autoclave and dishwashing center, cubicles for researchers to take notes and search literature, FACS and microscopy facilities. This space is premiere, providing a superb environment for scientific research, learning and reflection. The space is leased until Dec. 31, 2019 with an option to renew for an additional eight years, which we plan to do. The space is described below in a narrative, with the overall purpose in more detail. Also, see attachment for drawing of this space. Then in the following pages, the budgets and completion/timetables are set forth.

1. As noted in Part I of this application, current space available for hESC and embryo research consists of a core group of rooms (Room A127, A132 and A134) that will provide a center for human embryonic stem cell growth, differentiation, and molecular biology/genetic experiments. This space will accommodate the hESC derivation, embryo analysis and SCNT efforts, as well. This space contains adequate bench space for approximately 9 researchers to be accommodated in a "hotel" format when there is need for space for experimentation for several days to 2-4 weeks before transfer of the technology to other appropriate space for nonfederal research. In addition, this space will allow the use of tissue culture hoods and incubators to accommodate 8 researchers.

2. To increase the capabilities for a successful hESC research and teaching center, we have also established plans to renovate a larger shared laboratory facility. In essence, we will convert the space designated as A119, A120, and A126 (2500 square feet) into a fully-functional laboratory that will house an additional group of up to 16 researchers, again with space being designated in a "hotel" manner with use for short to more extended periods of time of up to 3 – 6 months in this space. We also note that this space will be ideal for teaching and courses and will provide an extension of Rooms A127, A132 and A134. Note that this space is a necessary expansion of the space previously outlined (in Part I) and will better provide for all of the researchers who are committing to projects in hESC and human embryo biology.

3. Supporting scientific space is required for all successful centers for research and education. Supporting the central scientific

Section B -- 1. Laboratory Renovation Plan (continued)

space described above, are rooms such as A104A, B, C, and A106 (autoclave, procedure, weighing, and ante rooms), which were completed prior to this RFA. In addition, rooms such as A118 are necessary as a dark room/equipment room, A130 houses incubators with emergency CO2 and emergency power, A107 and A138 are holding and storage rooms respectively, A137 is a tissue culture room in which lentiviral vectors may be used and other rooms such as A140, and A159 provide essential functions such as copying and space for administrative personnel.

4. Further supporting the scientific space are Rooms A201, A202 and A203. This space is renovated to provide one large seminar/ conference/class room that will accommodate new AV equipment (speakers, video conferencing, phone and data jacks). This space will serve for gatherings at the beginning and end of the day during formal class times and will also provide a place for group meetings and formal and informal gatherings of those who are doing research in the hotel space. This space is very important to building the community of researchers during their stay.

5. Finally, for those who use the Shared Research Laboratory, we will provide, on a limited basis, administrative or office space. The primary use of this space will be for tracking hESC use at the Shared Laboratory, as well as, appropriate use of consents in oocyte and embryo donation, MTA documentation and IRB approvals. It will also be the coordination center for the training courses. It is not in need of renovation.

The above narrative summarizes the project for which we seek funds at Arastradero. This project will be managed and tracked by the Stanford Project Management group at Stanford for Phases 1 and 2. The project manager, Ms Susan Rozakis, will review all change orders from the contractor for accuracy and dispute any of those that are not applicable. For Phase 1B, Ms Carol Klein, with the Office of Facilities Planning and Management at the Stanford School of Medicine, is the Project Manger. Contingency plans in case of cost overruns have been accounted for in the budget through contingencies for the project at 10%. The plans and schedule for development include meeting with the users to determine needs, develop drawings, create construction documents, price those documents by the contractor, obtain budget approval, obtain a permit from the City of Palo Alto, construction, equipment move in and closeout. The time duration for this project is as follows.

Phase 1: Rooms A104A, A104B, A104C, and A106 were completed prior to January of 2006, as was the bulk of major renovation of A107. The total project time was 1 year.

Phase 1B: Rooms A108, A118, A127, A128, A130, A134, A132, A138, A140, A159, were completed in Oct. 2006, with the exception of rooms A138 and A108 which will be completed in Dec. 2007. The total project time is (3) months for all but A138 and A108. For those, it is (3) months once construction starts and including design time.

Phase 2: Rooms A119, A120, and A126, are scheduled to be completed in September of 2007 and will provide the much-needed extra laboratory space required for hESC research and teaching. In addition, the conference/seminar/class room (A201, A202, A203) with audiovisual capabilities is also slated to be completed in September of 2007. The total project time for Phase 2 is 1.5 years. Some of the preliminary planning was performed as part of Phase 1.

Below, we further describe the current space and the renovations and reconfigurations to be done:

Phase 1B
A107: The Holding Room was renovated to accommodate new animal holding racks. New racks were also purchased.
A108: This space will be modified for new storage under the existing stair. This will require a permit and will add walls, a new door and shelving.
A118: This space is a dark room and has been renovated. We configured the room to accommodate several freezers with the addition of power and cutting and capping a CO2 line. Restraints are added to all equipment. Additional cooling was also added to accommodate the new heat load from freezers.
A128 and A127: This space was configured to accommodate several freezers and equipment with the addition of power, anchoring equipment, and adding shelving. Additional cooling was also added to accommodate the new heat load from freezers and equipment.
A130: This space was modified to accommodate new incubators with emergency power and CO2.
A132: This space was an open lab with benches around the perimeter. To reconfigure the space, more island benches were added with vacuum, gas, air, electrical and data/voice connections. Electrical and restraints was also added for equipment fit-

Section B -- 1. Laboratory Renovation Plan (continued)

ups. Additional cooling was also added to accommodate the new heat load from freezers and equipment.
A134: This space was modified to accommodate (2) new Biosafety Cabinets and an incubator with services and restraints. Additional cooling was also added to accommodate the new heat load from the added equipment.
A138: This space will be modified to fit new storage space. This will require a permit and will add walls, a new door and shelving.
A140: Renovated to accommodate new office cubicles and telephone/data connections.
A159: Renovated to accommodate new office cubicles and telephone/data connections.

Phase 2
A119/A120/A126: This space consisted of offices and a conference room that will be demolished to create a new lab, tissue culture room with services, and equipment room with emergency power. Additional cooling will added to accommodate the new heat load from freezers and equipment.
A201/A202/A203: This space will be renovated to accommodate new AV equipment consisting of speakers, video conferencing, phone and data jacks.

800 Welch Road Laboratory Renovation Narrative

In addition to space at 1050 Arastradero Road, we foresee the need to expand our capabilities with additional space proximal to the School of Medicine campus (1211 sq/ft) to serve as a satellite facility. This space at 800 Welch Road requires only modest renovation as indicated in Part I, but does require some reconfiguration in order to be appropriately equipped for further nonregistered hESC work. This space will be used for wet lab experimentation with non-registered hESCs. The tissue culture facilities will be used to expand well-characterized lines for distribution to researchers and will enable additional culturing space for Stanford researchers. The space consists of a series of offices (303B, C and D), three laboratory areas (305, 306, 308/308A), and a hallway alcove as described below.

In offices 303B, 303C, and 303D, the scope of work would include removing the existing furniture, patching and painting, and the purchase and installation of new furniture to accommodate two people per office. In lab 305, the goal is to transform it from a small equipment room/open lab into a TC room. This requires removal of existing blinds and replacement with more appropriate black-out shades to filter the sunlight and prevent excess heat accumulation in the tissue culture room. In addition, the current cooling for the room will need to be adjusted for the new equipment. Two tables/benches along the window wall will be removed and reinstalled in 308A. The vacuum outlet at the current bench will need to be relocated to the other side of the room and one additional vacuum outlet will need to be installed for the two TC hoods. Unistrut with chains will be installed to secure the CO2 tanks for the incubators. A glassware cabinet will be installed in the room. Grommets will be added into the lab tops as needed in order to access the electrical at the knee holes. The patching of flooring and patch and paint of the walls will be done as necessary. In lab 306, the window blinds need to be changed out to a window covering that would reduce dust and filter light. In lab 308, the scope of work includes removing and replacing the existing blinds with window covering that would reduce dust and filter light, and shelving with seismic lips needs to be added in the alcove area near the door. In 308A, the window blinds need to be changed out to a window covering that would reduce dust and filter light, ceiling tiles need to be replaced, and the two tables from 305 need to be installed. The alcove in the hallway needs two dedicated emergency outlets installed for two -80ºC freezers. For all of these rooms, the doors need to be re-keyed and all of the large and expensive pieces of equipment need to be restrained.

This project will be managed by the Stanford Office of Facilities Planning and Management. The project is simple and short. The change orders will be handled as needed based on the need of the end users to get the space ready for them. No formal design is required for this project. An annotated scope drawing has been provided to acquire costs. The project construction should take no longer than six weeks if funding is in place.

Section B. 1. Schedule/Timeline and Drawdown of Funds Table

Provide a realistic schedule and drawdown of funds for completing each activity/milestone, as indicated below.

#	Activity/Milestone	Start Date	Completion or Milestone Date	Amount of CIRM funds to be drawn
1	Grant Award (estimate)		July 2007	
2	Request for Planning Funds (10% of Construction Costs)		July 2007	$100,000
3	Prepare Preliminary Plans	July 2006	August 2006	
4	Approval of PPs		August 2006	
5	Prepare Working Drawings	August 2006	August 2006	
6	Approval of WDs		September 2006	
7	Request Construction Contract funds (80% of Construction Costs)		September 2006	$800,000
8	Advertise for Construction Contract	N/A	N/A	
9	Award Construction Contract		September 2006	
10	Construction Activities	September 2006	December 2007	
11	Completion of Equipment Purchases		December 2007	
12	Request Equipment Purchase funds		November 2007	1,000,000
13	Beneficial Occupancy		December 2006	
14	Notice of Completion		December 2007	
15	Request Construction Completion Amount (10% of Construction Funding)		November 2007	$100,000

"Preliminary Plans" (PPs) represent approximately 35 percent of the design effort, or may be considered the product of completing the "Design Development" (DDs) phase of architectural work.

"Working Drawings" (WDs) represent drawings and specifications from which a contractor may determine the full extent of work contemplated in the project for purposes of submitting a bid; may be referred to as completion of "Construction Documents" (CDs) phase of architectural work.

Section B. 2. Budget

Provide a complete budget for the renovation that includes construction costs, design fees, administration of the project, other costs (i.e. installation of equipment) and a construction contingency (limited to 7-10% of the construction budget). Identify the amount of CIRM funds requested and the matching funds (construction requires 20% matching funds). Provide a complete budget for movable equipment (equipment requires 20% matching funds). (narrative limited to 3 pages)

(Note: An Excel spreadsheet can be attached as long as the total submission for this Section is limited to 3 pages)

Renovation Budget Narrative for 1050 Arastradero Road

Construction Contract Costs
The construction contract costs consist of the demolition of existing walls, building new walls, piping in for air, gas, vacuum and electrical utilities, adding new heating and ventilation air conditioning, adding or adjusting existing lighting and switching for lights, providing and installing new casework, sinks, and shelves, anchoring for equipment and tanks, adding new flooring, painting walls, adding new audio-visual speakers, and video streaming and conferencing components.

Other Construction Costs
Other construction costs would include adding cabling for data and telephone connections as well as controls for building monitoring systems, constructing new closets to house the controls for data and phone connections, exterior signage for the building, hazardous material handling and air balancing.

Design Fees
Design Fees include basic services for architectural design, structural design, MEP design, special inspections and materials testing, outside plan check, move coordinator, and General Contractor pre-construction services.

Administrative Costs
Administrative costs consist of project management fees, project engineer fees, financial analyst, construction consultant, assistant for the project manager, contract fees, Environmental Health and Safety Review and Fire Marshall fees, builder risk insurance, City of Palo Alto plan check fees, air permit for the generator, moving costs, storage units, phone activations, keys and locks for doors, security and key card readers, security cameras and interior signage.

Construction Contingency
Construction Contingency is allocated at 10% of the project cost.

Movable Equipment
Moveable equipment consists of office and lab furniture, lab equipment, conference room furniture and animal cages.

Renovation Budget Narrative for 800 Welch Road

The construction cost includes demolition, the purchase and installation of window coverings, HVAC work, flooring, patch and paint, plumbing, providing and installing new shelving, electrical, and anchoring of equipment and tanks.

The administrative costs include data/telecom costs, contract's fees, lockshop (keying), allowance for furniture, shutdowns, and signage.

The construction contingency is allocated at 10% of the project cost.

Budget Narrative for Equipment (Shared Resource Laboratory)

Major equipment and resources for the Shared Research Laboratory facilities will be housed at both the central and satellite facility. Below we justify major equipment proposed, its use and location.

Equipment for Human embryology, derivation of hESCs and SCNT. Equipment in this category is IVF grade equipment required for complete outfitting of Room A134 of the central facility. This equipment is considered to have a long durable use period and should be functional for at least 10 years, with the exception of the computers which will likely require replacement in 3 years.

Section B. 2. Budget (continued)

IVF grade hood – four foot for derivation and culture, passaging	15,000
IVF grade hood – six foot for derivation and culture, passaging	20,000
Incubators – Hera, self-sterilizing (4) for routine embryo and hESC culture	24,000
Fluorescent microscope with image capture camera and software for analysis of immunofluorescence and GFP and derivatives	60,000
Inverted microscope and image capture system for analysis of cells in culture	25,000
Low-temp (-80) freezer for storage of hESC derivatives and reagents	15,000
Refrigerators for media and reagent storage (3)	5,000
Tabletop centrifuge for pelleting of cells for passaging and/or analysis	10,000
Water baths for media preparation and warming (2)	2,500
SCNT station: Including inverted ICSI scope, micromanipulation system, SpindleView apparatus, stage and block warmers and heating stage	150,000
Computers (6): For maintenance of human embryo/oocyte database (3) and for derivation and SCNT teams (3)	15,000
Cryogenic freezer chest for secure storage of human tissue samples and embryos	25,000
Total Costs to Equip A134 for embryology, derivation and SCNT	$366,500

Equipment for the wet laboratory "hotel" facility. The equipment below would equip a standard laboratory for use for research purposes. All of the equipment will be used for general molecular biology, genetic or cell biology experiments with hESCs, embryos or derivatives. Note that this equipment will be located in A127, as outlined in Part I; however, we have added an additional space (A119, 120 and 126), which will be renovated as described above, and will house 16 additional benches for use in research, and as necessary for teaching. We note that in order to outfit both laboratories, we will purchase a confocal microscope with more limited capabilities (that is $160,000 rather than $250,000 as noted in Part I) and use the additional $90,000 for equipment for general laboratory use. All of this equipment is also considered to have a long durable use period and should be functional for at least 10 years, with the exception of the computers which will likely require replacement in 3 years.

Micro-centrifuges (8)	40,000
Vortex (14)	14,000
Heat blocks (30)	9,000
DNA gel running stations (20)	20,000
Protein gel running stations (10)	10,000
Real-time PCR machine (2)	60,000
PCR machines (12)	60,000
Tabletop centrifuge	10,000
Refrigerators (6)	6,000
UV spectrophotometer	5,000
UV electrophoresis documentation system	3,000
Routine balance	3,000
Nanodrop analysis system	8,000
Computer(s) for laboratory equipment (4)	10,000
Confocal microscope for use in experiments with differentiation of hESCs to identify subcellular localization and colocalization of markers/proteins	160,000
Total to equip Shared Resource Center Research Space (A127 and renovated A119, 120 and 126)	$418,000

Equipment for the Characterization and Distribution Center and Routine Tissue Culture Core. One of the limiting steps in hESC research is that the routine growth and culture of cells may often meet unexpected roadblocks. We propose to maintain a center where people may be able to grow and culture their cells, routinely, with assistance from technical people in laboratories in the same proximity. Thus, we propose the following equipment for the 1200 square foot Welch Road Facility. This equipment is also considered to have a long durable use period and should be functional for at least 10 years, with the exception of the

Section B. 2. Budget (continued)

computers which will likely require replacement in 3 years.

Standard tissue culture hoods – four foot for routine growth & passaging (4)	20,000
Incubators – Hera, self-sterilizing (8) for routine embryo and hESC culture	48,000
Tabletop centrifuge for pelleting of cells for passaging and/or analysis	10,000
Water baths for media preparation and warming (2)	2,500
Low-temp (-80) freezer for storage of hESC derivatives and reagents	15,000
Refrigerators for media and reagent storage (2)	2,000
Inverted microscope and image capture system for analysis of cells in culture (1)	25,000
Computers for record-keeping and demonstration purposes (2)	5,000
Liquid nitrogen storage tanks for cell lines (2)	10,000
Micro-centrifuges (2)	10,000
Real-time PCR machine (1)	30,000
PCR machines (3)	15,000
UV spectrophotometer	5,000
Nanodrop analysis system	8,000
Computer(s) for laboratory equipment (4)	10,000
Total for Welch Road Center	$215,500

Section B. 3. Budget Summary Table

Complete the budget summary for the use of CIRM funds.
Note: All colored fields contain calculated data. Please do not enter anything in those fields.

Other Project Costs				
Budget Category		**Total Budget**	**CIRM Grant Funds**	**Institutional Match**
Construction Contract Costs		$ 830,390	$ 830,390	$ 000
Other Construction Costs (institutional)		$ 32,080	$ 32,080	$ 000
Subtotal Construction		$ 862,470	$ 862,470	$ 000
Design Fees		$ 60,410	$ 60,410	$ 000
Administrative Costs		$ 77,120	$ 77,120	$ 1,410
Construction Contingency		$ 000	$ 000	$ 96,080
Total Construction		$1,000,000	$1,000,000	$ 97,490
Movable Equipment		$1,000,000	$1,000,000	$ 302,510
Total Budget		$2,000,000	$2,000,000	$ 400,000
Gross Square Feet	4250	$ 235.29	$ 235.29	Const Costs/GSF
Assignable Square Feet	3757	$ 266.17	$ 266.17	Const Costs/ASF

Section B. 4. Institutional Commitment

Provide a detailed description of the amount and source of matching funding for each request that requires matching funds. The requirement of matching funds can be satisfied if the institution can document funds, excluding other grant funds, committed to similar projects (i.e., renovation of lab space and equipment purchase) after January 1, 2005. Detail the use of the space after the three year period is completed. (narrative limited to 2 pages)

Detailed description of the amount and source of matching funding (also see attached letter).

The commitment for matching by Stanford University is $100,000 which will be used to fund equipment costs for the Stem Cell Techniques Course. The Institute for Stem Cell Biology and Regenerative Medicine and the School of Medicine will cover the additional matching requirement of $400,000 ($302,510 equipment and $96,080 construction). Total matching as shown in the budget is $500,000. The source of these matching funds is unencumbered, non-federal.

We also note here that both the University and the School of Medicine have made stem cell research, in particular human embryonic stem cell research, an area of high priority. This is illustrated in part by our commitment to recruit Dr Reijo Pera, and to support the newly-formed Stanford University Human Embryonic Stem Cell Research and Education program that she directs, with extensive facilities and equipment necessary for success.

It is also important to note here that the space that we are renovating is part of a larger facility (of over 40,000 square feet) which is completely dedicated to stem cell research and education. The Arastradero Road site provides a premiere laboratory facility for 8-10 faculty and will accommodate 75 to 100 postdoctoral fellows and students. This facility is the central facility for Stanford University's Institute for Stem Cell Biology and Regenerative Medicine. The University and School of Medicine have already committed more than $20M to the development of this site, with renovations dating back to 2005. In other words, the funds that we request will serve the important purpose of augmenting a project that is much larger than what is presented in this specific proposal.

Detail the use of the space after the three year period is completed.

The Shared Research Laboratory Space will continue to be used for human embryonic stem cell biology in the foreseeable future and is leased until 2019. Currently, there are more researchers at Stanford University and neighboring institutions interested in pursuing human embryonic stem cell biology than there is space for research or teaching. As outlined in Part I of this application, more than 30 researchers are on a "waiting list" for course instruction in human embryonic stem cell techniques; others wish to occupy the Shared Research Laboratory space and cannot be accommodated at this time. We anticipate that as we move forward, we can begin to assist with requests, one by one; however, we also anticipate increased interest and use in the future that will necessitate the maintenance of the Shared Research Laboratory Space as a resource center at Stanford University. Given this situation, we will continue to use the space that is renovated for human embryonic stem cell biology beyond the initial three year period of funding. We anticipate that in the absence of CIRM support for the management and teaching components, we will begin a recharge system for space use and teaching. We will offer two alternative recharge programs for research faculty: 1) Faculty can contribute a yearly fee for access to the space and support for experiments that include growth, culture, and differentiation of human embryonic stem cells. This would appeal to those with continual needs for access. 2) Faculty can contribute to the use of the facilities on a "pay as you go" basis. In this case, a use charge for equipment and space (as well as consumables) would be incurred and recovered for researchers with infrequent needs for access. Ultimately, it is envisioned that Stanford University will complete the Stanford Institutes of Medicine Building I in 2010-2011; at that time, additional facilities will be added to those available at Arastradero and Welch Roads (as outlined in this proposal) and will serve complementary roles but will not serve to replace the Shared Research Laboratory space.

Section C. Stem Cell Techniques Course (if applicable)

Based on the information provided in Part One of the application describing the course, include a justification of the additional space required and additional equipment requested, if any. Include additional square footage and provide as an attachment one 11x17 page of the proposed floor plan of the renovated space. (narrative limited to 1 page)

In designing the Stem Cell Techniques Courses, we build on a history of teaching excellence at Stanford University and collaborating institutions. Our experience indicates that success with hESC-based projects requires basic skills in culture and differentiation and advanced practices such as genomic modification and analysis of complex systems data. Thus we will initially offer three curricula: 1) Basic hESC Biology, 2) Individualized Training in Advanced Stem Cell Techniques, and 3) Systems Biology. The Stem Cell Techniques Courses require the sharing of space at 1050 Arastradero Road. Thus the renovation plans for the space are outlined above in Section B. We note that the Shared Laboratory Resource space is based on a "hotel" concept. Researchers may reserve space to occupy a research environment with other hESC experimentalists and with advice and guidance from a knowledgeable laboratory management group. The criteria for use of the space as a Shared Laboratory Resource was outlined in Part I, as follows: 1) Researchers with funded CIRM projects, 2) Researchers whose work entails hESC derivation, SCNT and direct embryo growth, 3) Other researchers with funded and unfunded projects that require non-federal hESCs, and 4) Researchers with all other stem cell needs. In scheduling the use of the Shared Laboratory Resource space, we will insure that we reserve the space three times a year for the Basic and Advanced hESC Courses, as outlined in Part I. In addition, we note that we will have individualized training, as necessary, to assist those with more complex or specialized problems with hESC biology.

Given the overlap of use of the space for both research and teaching, we find that our greatest need for support of the Stem Cell Techniques Course is in additional equipment required for students. Thus, below, and in Section C.2, we describe the equipment for training that will be located in both the central facility at Arastradero Road (for courses with groups of individuals such as the basic and advanced modules) and in the facility at 800 Welch Road (for individualized instruction). Computers are included for Systems Biology. We note that all of the equipment requested is considered to have a long durable use period and should be functional for at least 10 years, with the exception of the computers which will likely require replacement in 3 years. This equipment is organized into four essential modules as discussed below:

I. Routine hESC growth and passaging module
This module contains routine tissue culture hoods for the growth, passaging, differentiation and preparation of cells for the basic and advanced courses. We anticipate that class size for the basic course will be limited to approximately 15 research scientists and have requested sufficient equipment for this purpose. Note, however, that the number of tissue culture hoods and incubators were reduced from Part I due to space limitations and to allow purchase of a stereo-inverted microscope and a time-lapse microscopy system for instructional purposes. Major equipment to be used includes tissue culture hoods, incubators, tabletop centrifuges, and inverted microscopes for use by students and also staff who prepare cells for teaching activities. In most circumstances, basic and advanced courses will occur at Arastradero, though in some cases of scheduling overlap and demand, we may also utilize 800 Welch Road for this purpose.

II. SCNT module
The Shared Resource Laboratory will contain an SCNT station complete with a micromanipulator system, microscope, appropriate table and warming stage, as well as a Spindleview apparatus to visualize the chromosomes. In addition, the teaching facility will also require a station for advanced and individualized instruction.

III. Computer and database system
Also associated with the teaching activities, is a need for computers to aid students in learning the basics of record-keeping, filing of MTAs and other documents necessary for hESC line acquisition, as well as maintenance of an embryo/oocyte inventory system.

IV. Miscellaneous items
Supporting the teaching activities is a subset of items such as liquid nitrogen freezers, low temperature freezers, waterbaths and balances/weighing instruments. These are included in the budget in the following section.

In summary, the overall goal in seeking funds for the Stem Cell Techniques Courses is to equip the facilities adequately for simultaneous culture and growth of hESCs by individuals in a basic course, as well as those who seek advanced/individualized training.

Limit narrative to visible field area.

Section C. 1. Schedule and Drawdown of Funds Table (if applicable)

Provide a realistic schedule and drawdown of funds for completing each activity/milestone, as indicated below.

#	Activity/Milestone	Start Date	Completion or Milestone Date	Amount of CIRM funds to be drawn
1	Grant Award (estimate)		July 2007	
2	Request for Planning Funds (10% of Construction Costs)		July 2007	$ 000
3	Prepare Preliminary Plans	January 2006	January 2006	
4	Approval of PPs		February 2006	
5	Prepare Working Drawings	February 2006	February 2006	
6	Approval of WDs		August 1, 2006	
7	Request Construction Contract funds (80% of Construction Costs)		October 2006	$ 000
8	Advertise for Construction Contract	N/A	N/A	
9	Award Construction Contract		October 2006	
10	Construction Activities	November 2006	October 2007	
11	Completion of Additional Equipment Purchases		November 2007	
12	Request Additional Equipment Purchase funds		November 2007	$500,000
13	Beneficial Occupancy		October 2007	
14	Notice of Completion		November 2007	
15	Request Construction Completion Amount (10% of Construction Funding)		October 2006	$ 000

"Preliminary Plans" (PPs) represent approximately 35 percent of the design effort, or may be considered the product of completing the "Design Development" (DDs) phase of architectural work.

"Working Drawings" (WDs) represent drawings and specifications from whicha contractor may determine the full extent of work contemplated in the project for purposes of submitting a bid; may be referred to as completion of "Construction Documents" (CDs) phase of architectural work.

"Additional Equipment" represents equipment to be used for the Stem Cell Techniques Course.

Section C. 2. Budget (if applicable)

Provide a complete budget for the additional renovation that includes construction costs, design fees, administration of the project, other costs (i.e. installation of equipment) and a construction contingency (limited to 7-10% of the construction budget). Identify the amount of CIRM funds requested and the matching funds (construction requires 20% matching funds). Provide a complete budget for additional movable equipment (equipment requires 20% matching funds). (narrative limited to 3 pages)

(Note: An Excel spreadsheet can be attached as long as the total submission for this Section is limited to 3 pages)

We envision the establishment of a premiere center for education in human embryonic stem cell and human embryo development and genetics. Our goal is to offer three courses, which will be attended by scientists at Stanford, neighboring universities and in the state of California. Attendance in these courses will be especially encouraged for scholars who are supported by the Stanford University CIRM training grant (under directorship of Dr Michael Longaker). Renovated Shared Resource Laboratory space will be used for training. Here we provide the budget for equipment for training facilities that will be dedicated to the basic hESC and advanced hESC courses. Computers are included for Systems Biology. As noted above, by necessity, we reduced the number of a few items as listed in Part I, in particular the number of tissue culture hoods and incubators planned, and incorporated a stereo-inverted microscope and a time-lapse microscopy system into the requested equipment list to further enhance the capabilities of the teaching facility.

Standard tissue culture hoods – four foot for routine growth & passaging (3)	15,000
Standard tissue culture hoods – six foot for routine growth & passaging (1)	8,000
Incubators – Hera, self-sterilizing (6) for routine embryo and hESC culture	36,000
Tabletop centrifuge for pelleting of cells for passaging and/or analysis (2)	20,000
Water baths for media preparation and warming (2)	2,500
Low-temp (-80) freezer for storage of hESC derivatives and reagents	15,000
Low-temp (-20) freezer for storage of hESC derivatives and reagents	2,000
Refrigerators for media and reagent storage (4)	4,000
Inverted microscope and image capture system for analysis of cells in culture (3)	75,000
Stereo-inverted microscope	35,000
Time-lapse microscopy system	60,000
Fluorescent microscope with image capture camera and software for analysis of immunofluorescence and GFP and derivatives	72,000
SCNT station: Including inverted ICSI scope, micromanipulation system, SpindleView apparatus, stage and block warmers and heating stage	150,000
Analytic balance for weighing chemicals and reagents	4,000
Routine balance for weighing chemicals and reagents	3,000
Computers for record-keeping, demonstrations, systems biology course (5)	12,500
Liquid nitrogen storage tanks for cell lines (2)	10,000
Total equipment for Teaching Facility	$500,000

Section C. 3. Budget Summary Table (if applicable)

Complete the budget summary for the use of CIRM funds.
Note: All colored fields contain calculated data. Please do not enter anything in those fields.

Other Project Costs				
Budget Category		**Total Budget**	**CIRM Grant Funds**	**Institutional Match**
Construction Contract Costs		$ 000	$ 000	$ 100,000
Other Construction Costs (institutional)		$ 000	$ 000	$ 000
Subtotal Construction		$ 000	$ 000	$ 100,000
Design Fees		$ 000	$ 000	$ 000
Administrative Costs		$ 000	$ 000	$ 000
Construction Contingency		$ 000	$ 000	$ 000
Total Construction		$ 000	$ 000	$ 100,000
Additional Movable Equipment		$ 500,000	$ 500,000	$ 000
Total Budget		$ 500,000	$ 500,000	$ 100,000
Gross Square Feet	1725	$ 0.00	$ 0.00	Const Costs/GSF
Assignable Square Feet	1500	$ 0.00	$ 0.00	Const Costs/ASF

CIRM Shared Research Laboratory Information Form – Part Two

Section D. Signature Page

Complete, save, and print Part Two of the Shared Research Laboratory Grant Information.

Submit electronic application as an email attachment to laboratory@cirm.ca.gov no later than 5:00pm PST on March 16, 2007.

Mail* the original executed Part Two application and five (5) copies to:

Shared Research Laboratory Grant Application
California Institute for Regenerative Medicine
210 King Street
San Francisco, CA 94107

***Mailing must be postmarked no later than March 16, 2007.**
Applications will not be accepted after these deadlines.

Project Start Date	Jul 1, 2007	Construction Start Date	Jul 2, 2007	Occupancy Date	Sep 1, 2007

Total Part Two Funds Requested for Shared Laboratory Space	$2,000,000
Total Part Two Funds Requested for Stem Cell Techniques Course	$ 500,000
Total Capital Funds Requested	$1,000,000

Facilities Contact

Nancy H Tierney
Director
Office of Facilities Planning and Management
Stanford University
300 Pasteur Drive, Alway M033B
Stanford, CA 94305
(650) 725-3922
nancyt@stanford.edu

Authorized Organizational Official	Date
Print Name	Title
Program Director	Date
Print Name	Title

(Revised 03/07/2007)

CIRM Shared Research Laboratory Information Form – Part Two Supplement

Project Information

Application Number: CL1-00518-1

Program Director Name:

Historical Performance

Provide information on past performance for 3 projects.

	Project 1	Project 2	Project 3
Brief Project Title	801 Welch Road lab, office, (	Falk CV Medicine lab renova	CCSR core facilities reconfig
Original Budget (Total project cost)	$3,000,000	$1,395,000	$1,000,000
Final project cost	$3,000,017	$1,394,450	$1,000,000
Scheduled Completion Date	09/04	05/04	05/07
Actual Notice of Completion Date	11/04	05/04	06/07
Gross Square Feet involved	14,000	3,100	2,670
Assignable Square Feet involved	12,600	2,800	2,400
Approximate number of change orders	40	10	10
Value of all change orders & claims	$ 260,000	$ 55,000	$ 50,000
Type of construction management	Design Build	Design-Bid-Build	Design-Bid-Build

Laboratory Alteration Projects

Please enter the number of laboratory alteration projects completed by the applicant in the past 2 years (in the range of $1-5 million in project cost), and the approximate total dollar value that these projects represent.

Total Laboratory Alteration Projects: 16

Approximate Total Value: 40,000,000

Limit Budget Justification to visible field area.

CIRM Shared Research Laboratory Information Form – Part Two

Section A. Project Information

Project Title	The Stanford University Center for Human Embryonic Stem Cell Research and Education

Limited to 300 Characters

Project Start Date	Jul 1, 2007	Construction Start Date	Jul 2, 2007	Occupancy Date	Sep 1, 2007

Total Part Two Funds Requested for Shared Laboratory Space	$2,400,000
Total Part Two Funds Requested for Stem Cell Techniques Course	$ 600,000
Total Capital Funds Requested	$1,557,375

Note: All green fields are calculated values. Do not enter a value in the field.

Please indicate whether you propose to apply for funding of a Stem Cell Techniques Course along with the Shared Laboratory Space, or just the Shared Laboratory Space.

◯ Shared Research Laboratory only ◉ Shared Research Laboratory and Stem Cell Techniques Course

NOTE: Please be aware that any information you provide in this form will be made publically available.

Section A. 1. Program Director

Name	Prefix: Dr.	First: Renee	Middle: A	Last: Reijo Pera	Suffix:

Email (office)	reneer@stanford.edu	This email address identifies you to CIRM. Please use this email address for all correspondence with CIRM.
Application Number	CL1-00518-1	This field should fill automatically, based on the email address. If not, enter the number you received via email from CIRM, in the form "XX9-99999-9", where "X" is a letter, and "9" is a digit.

Section A. 2. Facilities Contact

Name	Prefix:	First: Nancy	Middle: H	Last: Tierney	Suffix:

Institution	Stanford University	If your institution is not listed, please identify the name of the institution here.
Other Institution		
Position Title	Director	
Department	Office of Facilities Planning and Management	
Address	300 Pasteur Drive, Alway M033B	

City	Stanford			CA	Zip Code 94305
Phone Number	(650) 725-3922	Ext		Fax Number	(650) 725-9641
Email (office)	nancyt@stanford.edu	This email address identifies you to CIRM. Please use this email address for all correspondence with CIRM.			

(Revised 03/07/2007)

Section B. 3. Budget Summary Table

Complete the budget summary for the use of CIRM funds.
Note: All colored fields contain calculated data. Please do not enter anything in those fields.

Other Project Costs				
Budget Category		**Total Budget**	**CIRM Grant Funds**	**Institutional Match**
Construction Contract Costs		$ 830,390	$ 830,390	$ 000
Other Construction Costs (institutional)		$ 32,080	$ 32,080	$ 000
Subtotal Construction		$ 862,470	$ 862,470	$ 000
Design Fees		$ 60,410	$ 60,410	$ 000
Administrative Costs		$ 78,530	$ 77,120	$ 1,410
Construction Contingency		$ 96,080	$ 000	$ 96,080
Total Construction		$1,097,490	$1,000,000	$ 97,490
Movable Equipment		$1,302,510	$1,000,000	$ 302,510
Total Budget		$2,400,000	$2,000,000	$ 400,000
Gross Square Feet	4250	$ 258.23	$ 235.29	Const Costs/GSF
Assignable Square Feet	3757	$ 292.12	$ 266.17	Const Costs/ASF

Section C. 3. Budget Summary Table (if applicable)

Complete the budget summary for the use of CIRM funds.
Note: All colored fields contain calculated data. Please do not enter anything in those fields.

Other Project Costs				
Budget Category		**Total Budget**	**CIRM Grant Funds**	**Institutional Match**
Construction Contract Costs		$ 332,235	$ 332,235	$ 000
Other Construction Costs (institutional)		$ 12,420	$ 12,420	$ 000
Subtotal Construction		$ 344,655	$ 344,655	$ 000
Design Fees		$ 33,465	$ 33,465	$ 000
Administrative Costs		$ 34,845	$ 34,845	$ 000
Construction Contingency		$ 46,920	$ 46,920	$ 000
Total Construction		$ 459,885	$ 459,885	$ 000
Additional Movable Equipment		$ 140,115	$ 40,115	$ 100,000
Total Budget		$ 600,000	$ 500,000	$ 100,000
Gross Square Feet	1125	$ 408.79	$ 408.79	Const Costs/GSF
Assignable Square Feet	958	$ 480.05	$ 480.05	Const Costs/ASF

Section D. Signature Page

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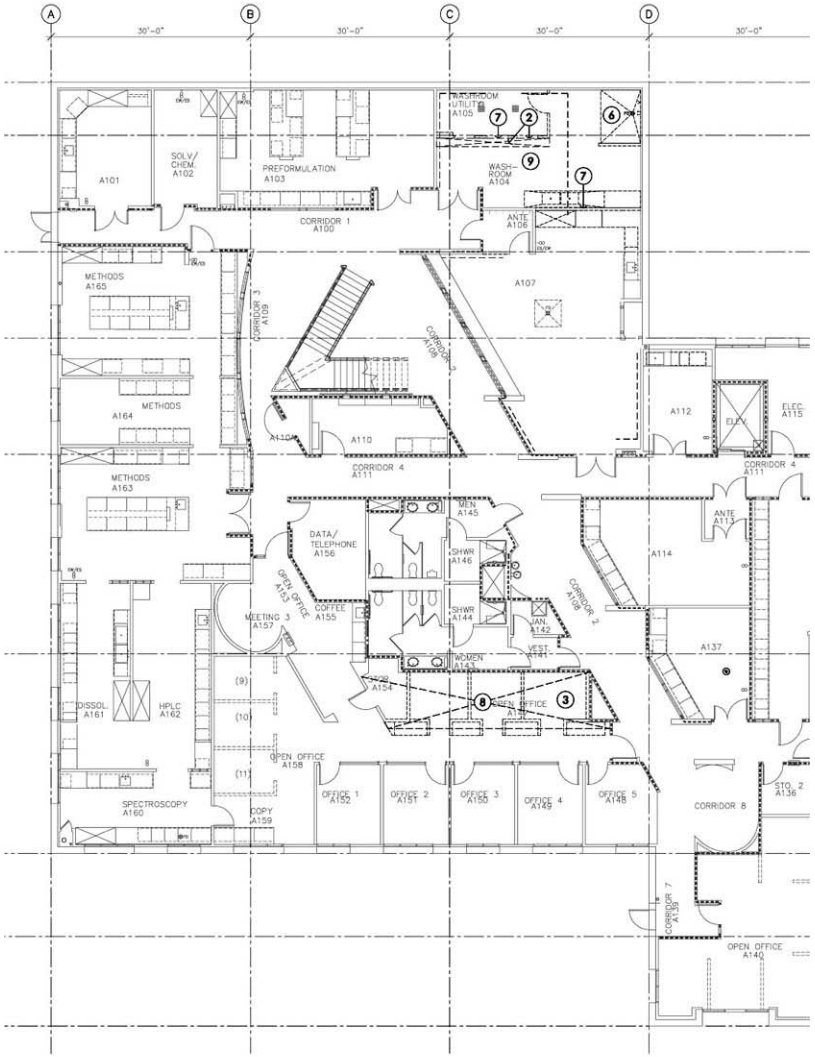
Facilities Contact

Nancy H Tierney
Director
Office of Facilities Planning and Management
Stanford University
300 Pasteur Drive, Alway M033B
Stanford, CA 94305
(650) 725-3922
nancyt@stanford.edu

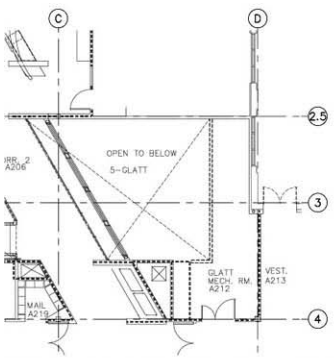
Authorized Organizational Official	Date
Print Name	Title
Program Director	Date
Print Name	Title

(Revised 03/07/2007)



DEMOLITION PLAN - FIRST FLOOR
1/8"=1'-0"

REFLECTED CEILING DEMOLITION PLAN - FIRST FLOOR
1/8"=1'-0"



DEMOLITION PLAN - SECOND FLOOR 1
1/8"=1'-0"

SYMBOLS LEGEND - DEMOLITION PLAN

- EXISTING NON-RATED PARTITION TO REMAIN
- EXISTING NON-RATED PARTITION TO BE REMOVED
- EXISTING RATED PARTITION TO REMAIN
- EXISTING DOOR TO REMAIN
- EXISTING DOOR TO BE REMOVED
- EXISTING WINDOW TO REMAIN
- EXISTING WINDOW TO BE REMOVED

KEY NOTES - DEMOLITION PLAN

1. DEMO PARTIAL EXISTING CEILING TO ALLOW FOR NEW STAINLESS STEEL ACCESS PANEL.
2. REMOVE AND STORE EXISTING GLASSWASHERS. SEE PLUMBING DRAWINGS FOR RE-USE OF EXISTING QUENCHING, D.I. WATER AND DRAINAGE SYSTEM.
3. DISASSEMBLE AND STORE EXISTING SYSTEM FURNITURE.
4. REMOVE EXISTING DRYWALL FASCIA. PREP FRAMING TO ALLOW CONNECTION TO A NEW DRYWALL SUSPENDED CEILING.
5. REMOVE EXISTING DRYWALL CEILING AND CEILING STRUCTURE. CONTRATOR TO REVIEW RE-USE OF EXISTING CEILING FOR ROOMS 104A, B & C.
6. DEMO EXISTING PLUMBING FIXTURES, SEE PLUMBING DRAWINGS FOR NEW FIXTURES. FILL-IN EXISTING SLOPE TO DRAIN AND PROVIDE LEVEL FLOORING FOR NEW FINISH.
7. REMOVE EXISTING PARTITION AND PATCH EPOXY FLOORING. SEE SPEC. SECTION 09612 AND 09700 FOR NEW VAPOR BARRIER AND EPOXY FLOORING INFO.
8. REMOVE EXISTING FLOOR FINISH AND PREP FOR NEW VCT.
9. REMOVE EXISTING CANOPY HOOD, SEE MECHANICAL DRAWINGS.

1A

GENERAL NOTES - DEMOLITION PLAN

1. THE INTENT OF THE DEMOLITION PLANS IS TO SHOW THE GENERAL NATURE OF THE SCOPE OF THE DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR VISITING THE JOB SITE TO VERIFY THE EXISTING CONDITION. NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES.
2. COORDINATE AND VERIFY WITH OWNER ITEMS TO BE SALVAGED OR RE-USED PRIOR TO DEMOLITION. SUCH ITEMS MAY INCLUDE THE FOLLOWING: DOORS, LIGHT FIXTURES AND CEILING TILES. SEE SPEC SECTION 02070 FOR SELECTIVE DEMOLITION.
3. COMPLY WITH "AMERICAN NATIONAL STANDARD SAFETY REQUIREMENTS FOR DEMOLITION".
4. IF WORK INCLUDED IN THIS DOCUMENT REQUIRES SEPARATION BETWEEN OCCUPIED AREAS & THE DEMOLITION AREA, CONTRACTOR IS TO PROVIDE PLASTIC SHEATHED PARTITIONS TO PROVIDE A TIGHT SEAL TO SEPARATE THE DEMOLITION/NEW CONSTRUCTION AREA FROM THE EXISTING OCCUPIED AREA FROM NOISE AND DUST. ATTACH PLASTIC FROM FLOOR TO CEILING TO PROVIDE A TIGHT SEAL. PROVIDE BARRIER ALSO AT AREAS ACCESSIBLE TO THE PUBLIC.
5. PERFORM ALL DEMOLITION IN AN ORDERLY MANNER. CAUSE NO DAMAGE TO EXISTING CONSTRUCTION TO REMAIN. TAKE CARE NOT TO ENCROACH ON ADJACENT OCCUPIED AREAS. PROTECT ALL EXISTING FINISHES, DOORS, FRAMES, ETC. WHICH ARE TO REMAIN.
6. USE ALL MEANS NECESSARY TO PREVENT THE SPREAD OF DUST TO ADJACENT AREAS.
7. CONDUCT DEMOLITION OPERATIONS & THE REMOVAL OF DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH STREETS, WALKS, & OTHER ADJACENT OCCUPIED OR USED FACILITIES.
8. MAINTAIN EXISTING UTILITIES TO REMAIN IN SERVICE AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS.
9. SCHEDULE ALL SERVICE SHUT-DOWNS WITH OWNER. NOTIFY OWNER A MINIMUM OF 72 HOURS PRIOR TO ANY SHUTDOWN.
10. FOR ALL REMOVED OR RELOCATED ROOF TOP EQUIPMENT, PATCH EXISTING ROOF PENETRATIONS TO MATCH EXISTING ADJACENT. FOR NEW ROOF TOP EQUIPMENTS, PROVIDE CURBS, FLASHING AND COUNTER FLASHINGS AND PATCH ROOF AS REQUIRED.
11. PATCH ALL OPENINGS IN FLOORS & ROOF WHICH ARE ABANDONED BY NEW CONSTRUCTION.
12. REMOVE ALL ANCHOR BOLTS & EMBEDDED ITEMS IN CONCRETE FLOORS THAT PROTRUDE ABOVE THE CONCRETE FLOOR SURFACE. GRIND FLUSH ALL PROJECTING STEEL OR PATCH HOLES FLUSH WITH NON-SHRINK GROUT.
13. DISPOSE OF ALL DEMOLISHED OR REMOVED MATERIALS LEGALLY OFF THE SITE. COMPLY WITH ALL LOCAL HAULING & DISPOSAL REQUIREMENTS.
14. CLEAN ALL DIRT, GREASE, OIL, ETC. FROM EXISTING CONCRETE FLOORS, WALLS & COLUMNS THAT WILL RECEIVE NEW FINISHES.
15. REMOVE EXISTING FINISHED CEILING WHERE NOTED OR AS REQUIRED FOR NEW CONSTRUCTION.
16. REFER TO STRUCTURAL, MECHANICAL, ELECTRICAL & PLUMBING DRAWINGS FOR SPECIFIC DEMOLITION NOTES REGARDING THESE DISCIPLINES. ALL HVAC, ELECTRICAL AND PLUMBING ITEMS REMOVED SHALL BE CAPPED AND IDENTIFY.
17. PROVIDE NEW SUPPORTS BACK OR HANGERS FOR ABOVE CEILING ITEMS WHICH WERE ORIGINALLY SUPPORTED BY REMOVED WALLS
18. UPON COMPLETION, CLEAN THE ENTIRE AREA OF DEMOLITION TO A TIDY, UNIFORM CONDITION REMOVING ALL DEBRIS, DUST PARTITIONS & ASSOCIATED MATERIALS USED DURING THE DEMOLITION.
19. SEE DETAILS OF NEW CONSTRUCTION TO DETERMINE EXACT SCOPE OF RELATED DEMOLITION WORK.
20. WHERE UTILITIES ROUTING ON PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS ARE INDICATED WITHIN (E) CONSTRUCTION, REMOVE (E) FINISH TO INSTALL (N) UTILITIES. PATCH AND/OR RE-INSTALL REMOVED FINISH TO MATCH EXISTING.
21. SEE ALSO STRUCTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DEMOLITION DRAWINGS.

DOWLER-GRUMAN ARCHITECTS
UNION OF DESIGN & TECHNOLOGY
201 Filbert Street, 3rd Floor
San Francisco, Ca. 94133
phone / 415.477.2700
fax / 415.477.2710

LICENSED ARCHITECT
RANDALL DOWLER
NO. C23107
REN. 2/28/07
STATE OF CALIFORNIA

project

LELAND STANFORD JUNIOR UNIVERSITY
ORGANIZED 1891

Stanford School of Medicine
1050 Arastradero Road,
Palo Alto
Tenant Improvements

project

no.	description	date
–	AS BUILT	NOV 15 06
1	PLAN CHECK RESPONSE	AUG 01 05
1A	BID SET	JUL 08 05
–	PERMIT SET	JUN 17 05

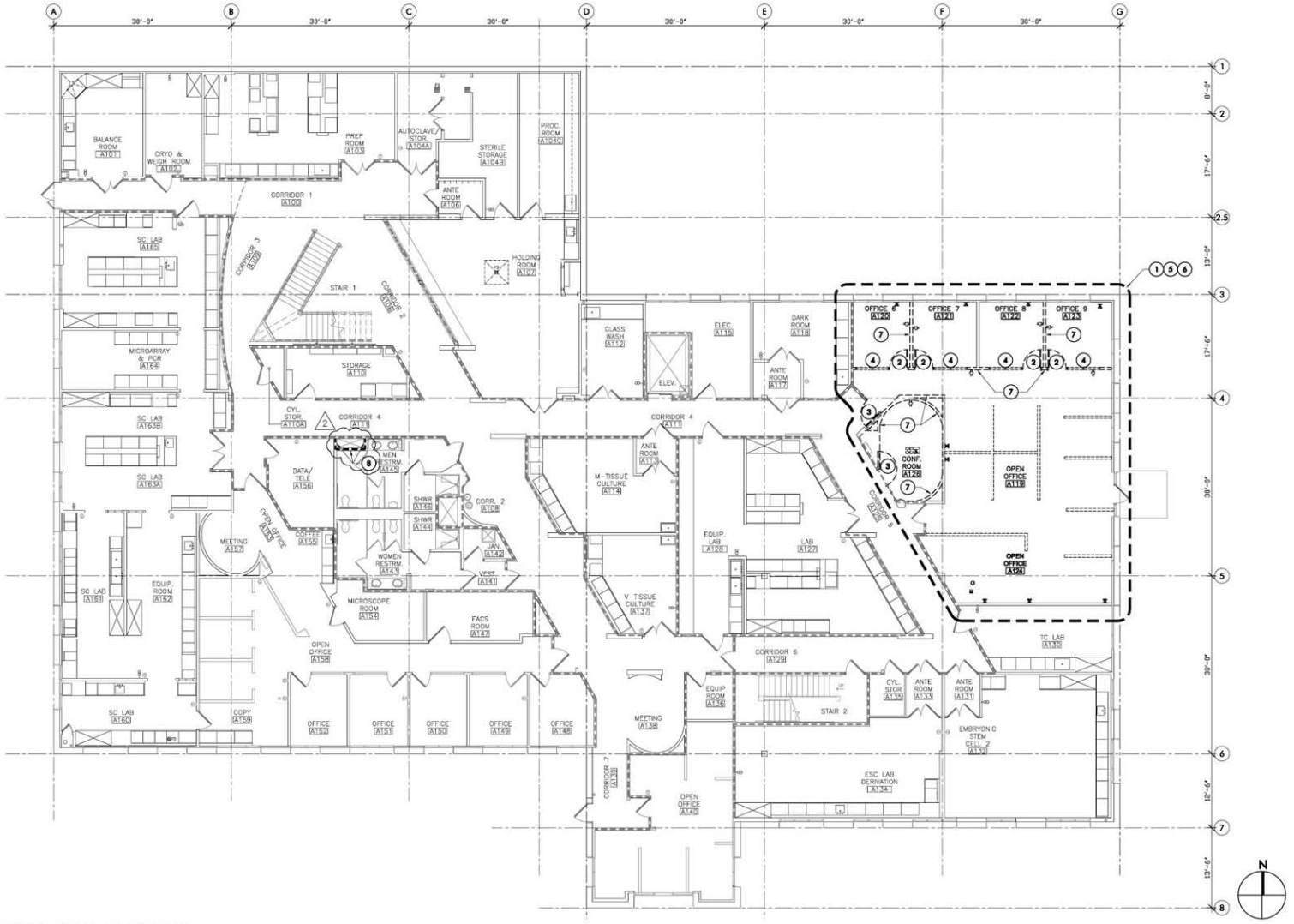
date: MAR 17 05
scale: 1/8"=1'-0"
project no.: 05001

BUILDING 1 - PHASE 1
FIRST FLOOR DEMO & RC DEMO PLAN

sheet name

A2.2.1d

sheet no.



BUILDING A - FIRST FLOOR DEMO PLAN

SCALE: 1/8" = 1'-0"

GENERAL DEMOLITION NOTES

1. SHADED AREAS ARE NOT IN SCOPE OF PHASE 2 CONSTRUCTION.
2. THE INTENT OF THE DEMOLITION PLANS IS TO SHOW THE GENERAL NATURE OF THE SCOPE OF THE DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR VISITING THE JOB SITE TO VERIFY THE EXISTING CONDITION. NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES.
3. SEE DETAILS OF NEW CONSTRUCTION TO DETERMINE EXACT SCOPE OF RELATED DEMOLITION WORK.
4. COORDINATE AND VERIFY WITH OWNER ITEMS TO BE SALVAGED OR RE-USED PRIOR TO DEMOLITION. SUCH ITEMS MAY INCLUDE THE FOLLOWING: DOORS, LIGHT FIXTURES AND CEILING TILES. SEE SPEC SECTION 02070 FOR SELECTIVE DEMOLITION.
5. COMPLY WITH "AMERICAN NATIONAL STANDARD SAFETY REQUIREMENTS FOR DEMOLITION".
6. IF WORK INCLUDED IN THIS DOCUMENT REQUIRES SEPARATION BETWEEN OCCUPIED AREAS & THE DEMOLITION AREA, CONTRACTOR IS TO PROVIDE PLASTIC SHEATHED PARTITIONS TO PROVIDE A TIGHT SEAL TO SEPARATE THE DEMOLITION/NEW CONSTRUCTION AREA FROM THE EXISTING OCCUPIED AREA FROM NOISE AND DUST. ATTACH PLASTIC FROM FLOOR TO CEILING TO PROVIDE A TIGHT SEAL. PROVIDE BARRIER ALSO AT AREAS ACCESSIBLE TO THE PUBLIC.
7. USE ALL MEANS NECESSARY TO PREVENT THE SPREAD OF DUST TO ADJACENT AREAS.
8. PERFORM ALL DEMOLITION IN AN ORDERLY MANNER. CAUSE NO DAMAGE TO EXISTING CONSTRUCTION TO REMAIN. TAKE CARE NOT TO ENCROACH ON ADJACENT OCCUPIED AREAS. PROTECT ALL EXISTING FINISHES, DOORS, FRAMES, ETC. WHICH ARE TO REMAIN.
9. CONDUCT DEMOLITION OPERATIONS & THE REMOVAL OF DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH STREETS, WALKS, & OTHER ADJACENT OCCUPIED OR USED FACILITIES.
10. MAINTAIN EXISTING UTILITIES TO REMAIN IN SERVICE AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS.
11. SCHEDULE ALL SERVICE SHUT-DOWNS WITH OWNER. NOTIFY OWNER A MINIMUM OF 72 HOURS PRIOR TO ANY SHUTDOWN.
12. FOR ALL REMOVED OR RELOCATED ROOF TOP EQUIPMENT. PATCH EXISTING ROOF PENETRATIONS TO MATCH EXISTING ADJACENT. FOR NEW ROOF TOP EQUIPMENTS, PROVIDE CURBS, FLASHING AND COUNTER FLASHINGS AND PATCH ROOF AS REQUIRED.
13. PATCH ALL OPENINGS IN FLOORS & ROOF WHICH ARE ABANDONED BY NEW CONSTRUCTION.
14. REMOVE ALL ANCHOR BOLTS & EMBEDDED ITEMS IN CONCRETE FLOORS THAT PROTRUDE ABOVE THE CONCRETE FLOOR SURFACE. GRIND FLUSH ALL PROJECTING STEEL OR PATCH HOLES FLUSH WITH NON-SHRINK GROUT.
15. CLEAN ALL DIRT, GREASE, OIL, ETC. FROM EXISTING CONCRETE FLOORS, WALLS & COLUMNS THAT WILL RECEIVE NEW FINISHES.
16. DISPOSE OF ALL DEMOLISHED OR REMOVED MATERIALS LEGALLY OFF THE SITE. COMPLY WITH ALL LOCAL HAULING & DISPOSAL REQUIREMENTS.
17. REMOVE EXISTING FINISHED CEILING WHERE NOTED OR AS REQUIRED FOR NEW CONSTRUCTION.
18. PROVIDE NEW SUPPORTS BACK OR HANGERS FOR ABOVE CEILING ITEMS WHICH WERE ORIGINALLY SUPPORTED BY REMOVED WALLS
19. REFER TO STRUCTURAL, MECHANICAL, ELECTRICAL & PLUMBING DRAWINGS FOR SPECIFIC DEMOLITION NOTES REGARDING THESE DISCIPLINES. ALL HVAC, ELECTRICAL AND PLUMBING ITEMS REMOVED SHALL BE CAPPED AND IDENTIFY.
20. WHERE UTILITIES ROUTING ON PLUMBING, MECHANICAL AND ELECTRICAL DRAWINGS ARE INDICATED WITHIN (E) CONSTRUCTION, REMOVE (E) FINISH TO INSTALL (N) UTILITIES. PATCH AND/OR RE-INSTALL REMOVED FINISH TO MATCH EXISTING.
21. UPON COMPLETION, CLEAN THE ENTIRE AREA OF DEMOLITION TO A TIDY, UNIFORM CONDITION REMOVING ALL DEBRIS, DUST PARTITIONS & ASSOCIATED MATERIALS USED DURING THE DEMOLITION.

KEYED NOTES

1. DEMO EXISTING CEILING AND LIGHTS
2. DEMO DOOR AND FRAME. SAVE FOR POSSIBLE REUSE.
3. DEMO DOOR, SIDELIGHT, AND FRAME. SAVE FOR POSSIBLE REUSE.
4. DEMO INTERIOR WINDOW.
5. REMOVE ALL OFFICE FURNITURE. SAVE FOR POSSIBLE REUSE.
6. DEMO EXISTING CARPET AND PREP FLOOR FOR NEW FLOOR FINISH.
7. DEMO EXISTING WALL. SEE NEW PLAN FOR EXACT SCOPE OF NEW CONSTRUCTION.
2 8. EXISTING RATED WALL TO BE NON-RATED
9.
10.
11.
12.
13.

SYMBOLS LEGEND - DEMOLITION PLAN

- EXISTING NON-RATED PARTITION TO REMAIN
- EXISTING NON-RATED PARTITION TO BE REMOVED
- EXISTING RATED PARTITION TO REMAIN
- EXISTING DOOR TO REMAIN
- EXISTING DOOR TO BE REMOVED
- EXISTING WINDOW TO REMAIN
- EXISTING WINDOW TO BE REMOVED

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LICENSED ARCHITECT
RANDALL DOWLER
NO. C23107
REN. 2/28/07
STATE OF CALIFORNIA

p r o j e c t

Stanford School of Medicine
1050 Arastradero Road,
Palo Alto
Tenant Improvements
Phase 2

project

no.	description	date
2	ISSUED FOR CONSTRUCTION	DEC 12 06
–	PERMIT SET	AUG 4 06
–	CO-ORD SET	JUL 27 06

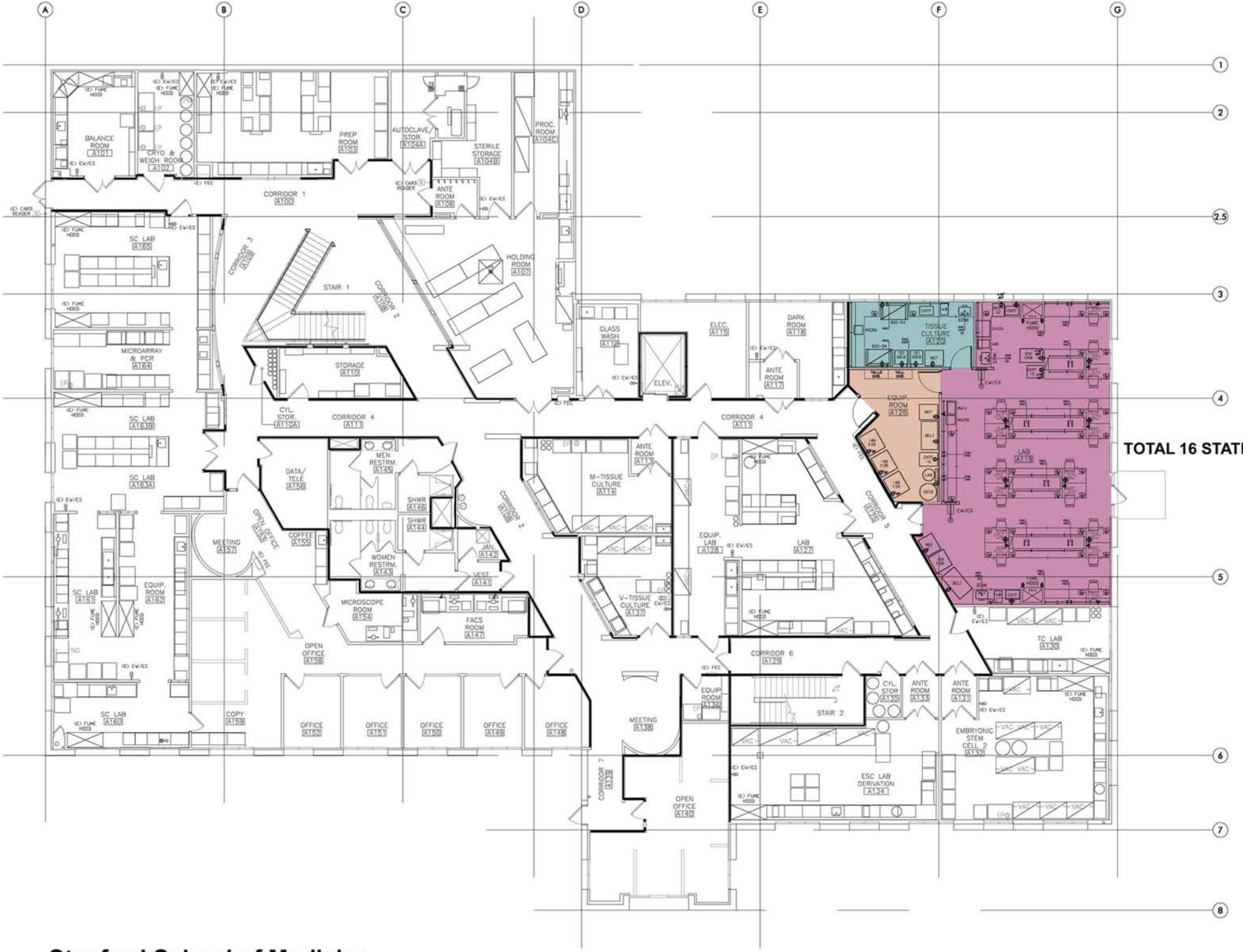
date: MAY 8 2006
scale: 1/8"=1'-0"
project no.: 05001

BUILDING A FIRST FLOOR DEMO PLAN

sheet name

A2.A1d

sheet no.



Stanford School of Medicine
1050 Arastradero Building A 1st Floor Phase 2 June 1, 2006 1/8" = 1'-0"

DOWLER-GRUMAN ARCHITECTS

Stanford School of Medicine
1050 Arastradero Building A 2nd Floor June 1, 2006 1/8" = 1'-0"

DOBLER-GRUDIN ARCHITECTS

RM 306
–Remove and replace blinds to window coverings that reduce dust
–Ceiling height is 96.5"

RM 305
–Remove and replace blinds to black–out shades
–Increase cooling to room by adjusting the existing system
–Remove and relocate (2) tables along window wall to 308A
–Patch flooring as necessary
–Patch and paint wall where table was removed as necessary
–Relocate vacuum oulet to opposite wall and add one addtional vacuum outlet for TC hoods
–Install unistrut and chains for CO2 tanks
–Ceiling height is 92" but there is a smoke detector that might be in the location of the TC hood so it measures at 89.5" from the floor to the bottom of the device.
–Provide and install new wooden glassware cabinet approx. 40" wide
–Add grommets as needed to access electrical from knee hole spaces

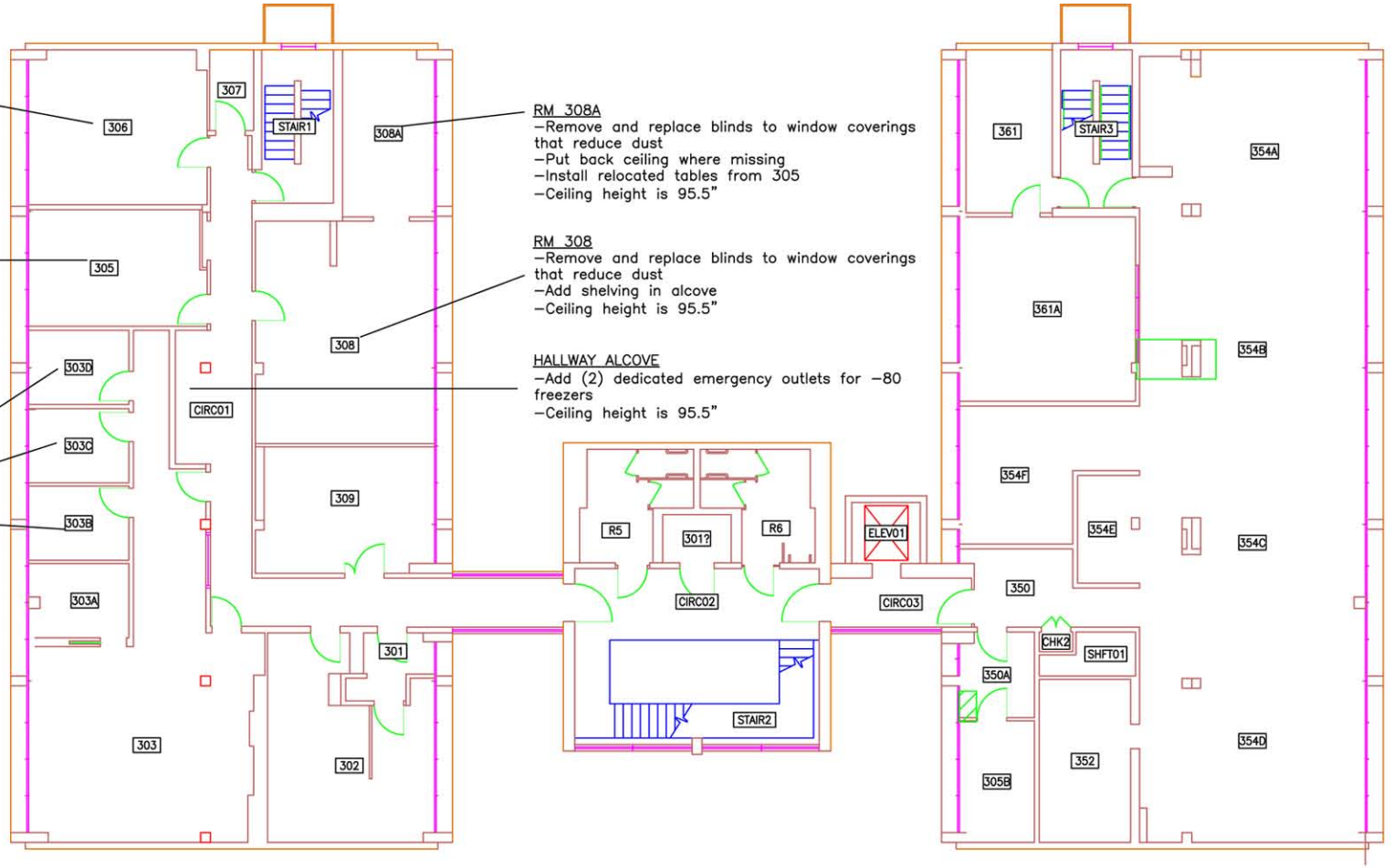
RM 303B, 303C, 303D
–Keep existing furniture if available

GENERAL NOTES
–rekey doors
–confirm if any additional electrical is required
–anchor equipment after move–in (2 TC hoods, incubators, freezers, etc)
–move–out Otolaryngology's equipment

RM 308A
–Remove and replace blinds to window coverings that reduce dust
–Put back ceiling where missing
–Install relocated tables from 305
–Ceiling height is 95.5"

RM 308
–Remove and replace blinds to window coverings that reduce dust
–Add shelving in alcove
–Ceiling height is 95.5"

HALLWAY ALCOVE
–Add (2) dedicated emergency outlets for –80 freezers
–Ceiling height is 95.5"



800 Welch Road

2nd floor

N

0′ 16′ 32′

CALIFORNIA INSTITUTE FOR REGENERATIVE MEDICINE

Appendix A

Application: CL1-00518-1

Title: "The Stanford University Center for Human Embryonic Stem Cell Research and Education"

Public Abstract:

The goal of this proposal is to establish a premiere center for human embryonic stem cell (hESC) research and education in the state of California. Our center builds on the established excellence of faculty with research organized into four thematic areas: 1) Human embryology, derivation of hESC lines, including disease-specific lines, and SCNT, 2) Cell fate specification and hESC reprogramming, 3) Cancer and cancer stem cells, and 4) Directed differentiation to cardiac and neural lineages..

Here, we seek funding to renovate facilities that will house a human embryo/oocyte resource center and database, hESC line derivation, as well as other research and educational training including a central repository for growth, characterization and distribution of hESC lines to scientists in our community. The success of the faculty in this Center in garnering funding for hESC research, including CIRM funding, mandates the expansion of our research facilities. In addition, an accompanying curriculum in Stem Cell Techniques Courses is complementary to the research efforts and builds on a history of teaching excellence. This curriculum will encompass three areas: 1) Basic hESC Biology covering core essentials of hESC biology for individuals with little or no previous experience in hESC research, 2) Advanced or Specialized Stem Cell Techniques courses that will provide individuals with tailored instruction to enhance forward momentum in selected scientific topics, and 3) Systems Biology that reaches across institutions to bring together scientists in hESC and computational research. We anticipate that the outcome of our training initiatives will be both an expansion of knowledge and the building of teams to tackle tough basic and clinical challenges.

Finally, we note that our human embryo/oocyte resource center will provide expertise, materials and a complete, decoded database for use of precious resources in hESC research. This will enhance efforts to provide early diagnostics for reproductive and somatic disorders, cancers and onset of disease. Thus, this Center builds on a regionally unique combination of scientific and clinical excellence of Stanford University and neighboring institutions to provide critical research and educational support to scientists in California.

Statement of Benefit to California:

This proposal provides real benefits and value to the citizens of California in that our Center is established with a foundation built on: 1) a scientific faculty that is unsurpassed in knowledge of human development and disease and dedicated to pushing forward in hESC research, 2) a program director with numerous publications on hESCs and extensive experience in the State of California in establishing and directing an hESC Center with both research and teaching components, 3) a Shared Tissue Resource that is supported by the largest, and most accomplished academic IVF (in vitro fertilization) Clinic in California to support research protocols, in an appropriate manner, that range from derivation of normal and affected or disease-specific lines to reprogramming of somatic cells via nuclear transfer, 4) an established, decoded database system that will allow data from hESC research to be translated back to improvements in assessing embryo health (and thus decrease adverse outcomes that impact women's health such as repetitive miscarriages), 5) a core curriculum that has been successfully implemented for group and individualized instruction, and 6) a central location in Northern California within Silicon Valley that allows us to draw additional expertise from neighboring institutions and open our doors to training diverse members of the scientific community on one contiguous campus. Thus, the combined facility and teaching resource proposed will benefit the citizens of California by consolidating and accelerating research within the northern and central California region as well as by providing advanced training opportunities for investigators and research personnel throughout the State. This will enable a broad range of stem cell applications, promote the rapid translations of new discoveries to the clinic and also provide well characterized clinical grade reagents to support these efforts.